Remarks

I. Status of claims

Claims 1-21 are pending.

II. Claim rejections under 35 U.S.C. § 102 - Part 1

The Examiner has rejected claims 1-21 under 35 U.S.C. § 102(b) over Geigel (U.S. 2002/0122067).

A. Claim 1

Independent claim 1 has been amended and now recites:

> 1. A method for arranging a set of objects within an area, comprising:
>
> initiating a first current binary tree comprising a leaf node;
>
> associating a first object selected from the set with the leaf node;
>
> establishing candidate binary trees, wherein each of the candidate binary trees comprises the current binary tree and a respective leaf node associated with another object selected from the set, and locations of the leaf nodes within each of the candidate binary trees correspond to relative positions of the associated objects within the area;
>
> computing a respective score for each of the candidate binary trees
>
> selecting one of the candidate binary trees as the current binary tree based on the computed scores;
>
> repeating the establishing, the computing, and the selecting until the current binary tree includes all the objects in the set; and
>
> after the repeating, arranging the objects within the area in accordance with the locations of the leaf nodes within the current binary tree.

In accordance with Geigel's teachings, the page creator module assigns images in a collection to album pages based on a first genetic evolution algorithm. The image placement

module generates genetic structures of page layouts for images that are assigned to a given page based on a second genetic evolution algorithm. These genetic structures define the locations, scales, and rotational orientations of the images that are placed on a given page. A layout evaluation module compares these layouts with certain other preferences and page requirements. When a suitable layout has been generated, the final album layout may be displayed, printed, or otherwise transferred for subsequent utilization.

Neither the page creator module nor that image placement module, however, establishes candidate binary trees in which the "locations of the leaf nodes within each of the candidate binary trees correspond to relative positions of the associated objects within the area," as recited in claim 1.

For example, the page creator module evolves a genome that can be represented as a tree structure in which the root 148 represents the entire photo album, the intermediate nodes 150-156 represent individual pages of the album, the intermediate nodes 158-164 represent subgroups within the individual pages, and the leaf nodes 166 represent the images (see FIG. 8 and ¶ 89). The positions of the leaf nodes 166 within the tree structure shown in FIG. 8 do not correspond to relative positions of the associated images within the area (i.e., album page) within which the images will be arranged. Instead, the positions of the leaf nodes 166 merely assign the images to respective pages and to respective subgroups within the pages.

The image placement module determines the relative positions of the images on each of the album pages. In this process, the image placement module evolves a genome of the type shown in FIG. 17. This genome consists of a set of four positioning parameters (i.e., x-position, y-position, scaling, and rotation) for each of the images to be placed on a given album page (see ¶ 126). The locations of these positioning parameters within the array shown in FIG. 17 do not correspond to relative positions of the associated images within the area within which the images will be arranged. Instead, the values of these positioning parameters determine the absolute positions of the images.

For at least these reasons, the rejection of claim 1 under 35 U.S.C. § 102(b) over Geigel now should be withdrawn.

Geigel also does not disclose the process of "repeating the establishing, the computing, and the selecting until the current binary tree includes all the objects in the set," as now recited in claim 1. In fact, Geigel does not appear to provide any details about how the initial solutions that are evolved by the page creator module and the image placement

module are determined. In any event, Geigel does not even hint that these initial solutions are determined by iteratively (i) establishing candidate binary trees comprising the current binary tree and a respective leaf node associated with another object selected from the set, (ii) computing respective scores for the candidate binary trees, and (iii) selecting one of the candidate binary trees as the current binary tree based on the computed scores.

For at least this additional reason, the rejection of claim 1 under 35 U.S.C. § 102(b) over Geigel now should be withdrawn.

B. Claims 2-7

Each of claims 2-7 incorporates the features of independent claim 1 and therefore is patentable over Geigel for at least the same reasons.

C. Claim 8

Independent claim 8 recites features that essentially track the pertinent features of independent claim 1 discussed above. Therefore, claim 8 is patentable over Geigel for at least the same reasons explained above in connection with claim 1.

D. Claims 9-14

Each of claims 9-14 incorporates the features of independent claim 8 and therefore is patentable over Geigel for at least the same reasons.

E. Claim 15

Independent claim 15 recites features that essentially track the pertinent features of independent claim 1 discussed above. Therefore, claim 15 is patentable over Geigel for at least the same reasons explained above in connection with claim 1.

F. Claims 16-21

Each of claims 16-21 incorporates the features of independent claim 15 and therefore is patentable over Geigel for at least the same reasons.

III. Claim rejections under 35 U.S.C. § 102 - Part 2

The Examiner has rejected claims 1, 8, and 15 under 35 U.S.C. § 102(e) over Kronmiller (U.S. 6,701,306).

A. Claim 1

Kronmiller discloses a process of partitioning data segments into inside child nodes and outside child nodes based on a plane that is defined by a discriminator value (see abstract), where outside nodes are partitioned to the left of the median node and inside nodes are partitioned to the right of the median node (see col. 7, lines 1-19).

Kronmiller does not disclose "establishing candidate binary trees ...; computing a respective score for each of the candidate binary trees; selecting one of the candidate binary trees as the current binary tree based on the computed scores; [and] repeating the establishing, the computing, and the selecting until the current binary tree includes all the objects in the set...," as recited in claim 1.

For example, Kronmiller's method does not involve iteratively "computing a respective score for each of the candidate binary trees" and "selecting one of the candidate binary trees as the current binary tree based on the computed scores". Contrary to the Examiner's position, the disclosure in col. 6, line 65, and col. 7, lines 4-13, does not teach "computing a score for each candidate tree and selecting one candidate tree having a highest score associated with placement of the subsequent object" (see Office action, page 6, lines 1-3). Instead, the expression at col. 6, line 65, merely sets the median for the array of ngNodes (see col. 6, lines 62-63); it does not define a score that is computed for each of multiple candidate trees. The disclosure in col. 7, lines 4-13, explains that the outside nodes are partitioned to the left of the median node and the inside nodes are partitioned to the right of the median node and that the new roots for the outside and inside children are determined by recursively calling the BuildOptimalNgTree routine. This disclosure has nothing whatsoever to do with selecting one of multiple candidate binary trees as a current binary tree based on scores computed for the candidate binary trees.

In addition, Kronmiller does not disclose "after the repeating, arranging the objects within the area in accordance with the locations of the leaf nodes within the current binary tree," as recited in claim 1. Contrary to the Examiner's position, FIG. 28 does not show the results of "arranging the objects within the area in accordance with the candidate tree" (see

Office action, page 6, lines 6-7). Instead, FIG. 28 illustrates one manner of partitioning the preexisting IC layout 305 in accordance with Kronmiller's method of organizing the spatial data records describing that layout (see FIG. 3, and col. 17, lines 50-51).

For at least these reasons, the Examiner's rejection of claim 1 under 35 U.S.C. § 102(e) over Kronmiller should be withdrawn.

B. Claim 8

Independent claim 8 recites features that essentially track the pertinent features of independent claim 1 discussed above. Therefore, claim 8 is patentable over Kronmiller for at least the same reasons explained above in connection with claim 1.

C. Claim 15

Independent claim 15 recites features that essentially track the pertinent features of independent claim 1 discussed above. Therefore, claim 15 is patentable over Kronmiller for at least the same reasons explained above in connection with claim 1.

IV. Conclusion

For the reasons explained above, all of the pending claims are now in condition for allowance and should be allowed.

Charge any excess fees or apply any credits to Deposit Account No. 08-2025.

Respectfully submitted,

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